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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,667	03/09/2001	Eko Adi Wibowo	8152-10	7527

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EXAMINER

MACE, BRAD THOMAS

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/802,667	WIBOWO ET AL.	
	Examiner	Art Unit	
	Brad T. Mace	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. However, Patent Serial No. 2,301,394 filed on March 20, 2000 does not meet the requirements for foreign priority since only one inventor (Eko Adi Wibowo) is assigned to the patent, rather than the 3 inventors (Wibowo, Huang, and Turpin) assigned to U.S. application No. 09/802,667.

Specification

2. The disclosure is objected to because of the following informalities: It is unclear what "dc" stands for on line 5 of paragraph [0044] and on line 17 of paragraph [0044] and on line 7 of paragraph [0046] and on line 22 of paragraph [0046]. "centre" should be "center" on line 8 of paragraph [0044] and on line 2 of paragraph [0046] and on line 27 of paragraph [0046]. Line 4 of paragraph [0079] states "and 128 wireless access nodes 702", which is unclear as to which reference number pertains to the wireless access nodes. Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference 290 of Figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "702" and "128" have both been used to designate wireless access nodes. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 5 is objected to because of the following informalities: "available total capacity" should be "total available capacity" on lines 2-3 of claim 5. "credits" should be "credit" on lines 11 and 13 of claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,812,545 (Liebowitz et al.).

Regarding claim 1:

8. Liebowitz et al. discloses a resource allocation method for allocating data slots to access devices in a broadband telecommunications system operating under a combined free/demand assignment multiple access protocol, comprising in each frame: determining a number of reserved data slots for an access device (col. 11, lines 41-43), receiving a volume-based dynamic capacity request from the access device (col. 11, 17-18), determining a maximum prioritized volume-based dynamic capacity for the access device according to the volume-based dynamic capacity request (col. 12, lines 29-39, where the terminals requested for bandwidth and are allocated guaranteed slots to empty their queues (having priority), and a preemptable slot can be assigned if needed, thus it is determined the maximum priority bandwidth (slots) to be allocated based on the request) and an accumulated prioritized volume-based dynamic capacity credit for the access device (col. 12, lines 17-18, where dynamic throughput is assigned based on the cumulative traffic requests made by the terminals), repeating the above steps for each of a plurality of access devices (col. 12, lines 17-18, where the traffic requests are made by terminals (plurality)), determining a total available capacity for

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prioritized volume-based dynamic capacity (col. 11, lines 66-67 through col. 12, lines 1-6, where the network manager can set the limit for the total channel capacity available for guaranteed (slots for queues (priority)) and permanent throughput below the maximum channel capacity), allocating to each of the plurality of access devices in turn up to their respective maximum prioritized volume-based dynamic capacities, prioritized volume-based dynamic capacity data slots until the total available capacity is exhausted (col. 12, lines 29-40, where a terminal is assigned the required number of slots to empty its queue (guaranteed slots for queue priority) and preemptable slots and free slots can be assigned if available, hence the dynamic capacity is allocated until the total capacity (of slots) is exhausted), and updating each of the plurality of access device's accumulated prioritized volume-based dynamic capacity credit (col. 12, lines 17-18, where dynamic throughput is assigned based on the cumulative traffic requests (guaranteed slots for queue priority) made by the terminals, hence, where only a certain amount of slots can be assigned to a terminal, the cumulative traffic request updates the amount of excess slots needed).

Regarding claim 2:

9. Liebowitz et al. discloses wherein the number of reserved data slots are data slots reserved through constant rate allocation (col. 12, lines 23-25, where the stream slots are used (reserved) for providing constant throughput).

Regarding claim 3:

10. Liebowitz et al. discloses wherein the number of reserved data slots are data slots reserved according to rate-based dynamic capacity (col. 12, lines 34-39, where a

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preemptable slot is assigned (reserved) to a terminal and preemptable slots can be reassigned in later frames to satisfy requests for stream and guaranteed slots made by other terminals (rate-based dynamic capacity)).

Regarding claim 4:

11. Liebowitz et al. discloses further including determining a maximum total volume-based dynamic capacity for each of the plurality of access devices (col. 12, lines 29-40, where the terminal is assigned the required number of slots to empty its queue and can also be assigned preemptable and free slots if needed (and if available), hence the maximum total volume-based dynamic capacity for each of the terminals is determined).

Regarding claim 5:

12. Liebowitz et al. discloses further including allocating non-prioritized volume-based dynamic capacity data slots to each of the plurality of access devices if the available total capacity is not exhausted after the allocation of prioritized volume-based dynamic capacity data slots (col. 12, lines 34-39, where the preemptable slot is allocated to each of the terminals if available (available total capacity is not exhausted) after allocation of guaranteed slots (for queue priority)).

Regarding claim 6:

13. Liebowitz et al. discloses further including allocating free capacity assignment data slots after the non-prioritized volume-based dynamic capacity data slots have been allocated if free capacity remains (col. 12, lines 39-54, where the free slots (if free capacity remains) are assigned after the other slot types have been assigned).

Regarding claim 7:

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14. Liebowitz et al. discloses wherein the allocation of free capacity assignment data slots includes the maintenance of a free capacity assignment credit for each of the plurality of access devices (col. 12, lines 17-18 and col. 12, lines 47-50, where dynamic throughput is assigned based on the cumulative traffic requests made by the terminals, hence, where only a certain amount of slots can be assigned to a terminal, the cumulative traffic request updates the amount of free slots needed).

Regarding claim 8:

15. Liebowitz et al. discloses a resource allocation system for broadband telecommunications network operating under a combined free/demand assignment multiple access protocol, comprising a circular-linked list for containing resource requirements for each of a plurality of access devices (col. 11, lines 19-28 and col. 12, lines 17-23, where the burst plan contains resource requirements for terminals), the resource requirements including an accumulated volume-based dynamic capacity credit for each of the plurality of access devices (col. 11, lines 19-24 and col. 12, lines 17-18, where the burst plan is determined by the collective needs of the terminals and where the burst plan is dynamic for each of the terminals, and where dynamic throughput is assigned based on the cumulative traffic requests made by the terminals), a resource allocation server logically connected to the circular-linked list for receiving volume-based dynamic capacity requests from the plurality of access devices (col. 12, lines 17-20, where a terminal can act as MT as explained on col. 3, lines 39-54, where the MT receives the capacity requests and creates the burst plan (logically connected)), and for scanning the circular-linked list (col. 12, lines 17-23, where the MT creates a burst plan

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in which each slot is associated with a terminal and each slot is classified, hence performs the functions to follow) to determine a number of reserved data slots for each of the plurality of access devices (col. 11, lines 41-43), to determine a maximum prioritized volume-based dynamic capacity for each of the plurality of access devices (col. 12, lines 29-39, where the terminals requested for bandwidth and are allocated guaranteed slots to empty their queues (having priority), and a preemptable slot can be assigned if needed, thus it is determined the maximum priority bandwidth (slots) to be allocated based on the request), to allocate, according to their respective volume-based dynamic capacity requests (col. 12, lines 29-40, where a terminal is assigned the required number of slots to empty its queue (guaranteed slots for queue priority) and preemptable slots and free slots can be assigned if available, hence the dynamic capacity is allocated until the total capacity (of slots) is exhausted) and accumulated prioritized volume-based dynamic capacity credits (col. 12, lines 17-18, where dynamic throughput is assigned based on the cumulative traffic requests made by the terminals), prioritized volume-based dynamic capacity data slots until a total available capacity is exhausted (col. 12, lines 29-40, where a terminal is assigned the required number of slots to empty its queue (guaranteed slots for queue priority) and preemptable slots and free slots can be assigned if available, hence the dynamic capacity is allocated until the total capacity (of slots) is exhausted), and, to update the accumulated prioritized volume-based dynamic capacity credits for each of the plurality of access devices (col. 12, lines 17-18, where dynamic throughput is assigned based on the cumulative traffic requests (guaranteed slots for queue priority) made by the terminals, hence, where only

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a certain amount of slots can be assigned to a terminal, the cumulative traffic request updates the amount of excess slots needed).

Regarding claim 10:

16. Liebowitz et al. discloses wherein the circular-linked list includes a free capacity assignment credit for each of the plurality of access devices (col. 12, lines 17-23, where the burst plan includes free slots, and where dynamic throughput is assigned based on the cumulative traffic requests made by the terminals, hence, where only a certain amount of slots can be assigned to a terminal, the cumulative traffic request updates the amount (credit) of free slots needed).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 5,812,545 (Liebowitz et al.) in view of U.S. Patent No. 6,650,630 (Haartsen).

Regarding claim 9:

19. Liebowitz et al. discloses substantially all the claimed invention as specified above, however, does not disclose expressly wherein the resource allocation server resides in a baseband section of a base station.

Haarsten discloses a controller that analyzes the request bandwidth ratios and allocates slots in the base station radios (col. 7, lines 66-67 through col. 8, lines 1-10,

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where the controller lies in the base station and communicates directly with the transceivers (interface) receiving the requests (baseband) from the terminals, also see Figure 5).

A person of ordinary skill in the art to which the invention pertains would have been motivated to employ Haartsen in Liebowitz et al. in order to perform bandwidth allocation through the base station rather than from a terminal. Therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Haartsen with Liebowitz et al. (collectively Liebowitz et al.-Haartsen) to obtain the invention as specified in claims 8 and 9. The suggestion/motivation to do so would have been to have the resource allocation server reside in the baseband section of a base station so that it can directly receive the resource requests from a greater plurality of terminals through the plurality of transceivers in order to effectively manage and allocate resources for all the terminals in-range of the base station.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Stanwood et al. discloses a method and apparatus for allocating bandwidth in a wireless communication system.

*Lappetelainen et al. discloses efficient bandwidth allocation for high speed wireless data transmission system.

*Newberg et al. discloses a method and apparatus for determining and reserving bandwidth for transmitting delay-sensitive streaming data over a radio

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frequency channel.

*luoras et al. discloses broadcast rate control allocation (BRCA) for congestion avoidance in satellite ATM networks.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (571) 272-3128. The examiner can normally be reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace
Examiner
Art Unit 2663

btm

September 14, 2004


RICKY NGO
PRIMARY EXAMINER
9/30/04